

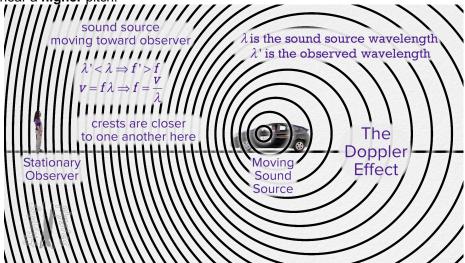
Flipping Physics Lecture Notes: Doppler Effect Demonstrations <a href="https://www.flippingphysics.com/doppler-effect.html">https://www.flippingphysics.com/doppler-effect.html</a> (really, you need to *hear* The Doppler Effect!)

Remember from *What is Sound?*<sup>1</sup> that:

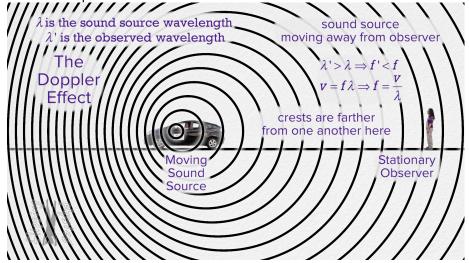
- Sound is a longitudinal, pressure wave.
- The lines are crests or wave fronts.
- Sound is periodic changes in pressure.
- Each crest is a location of high pressure.
- Sound is energy.
- This sound is in simple harmonic motion.
- Each circle is actually a sphere.



When the sound source is moving **toward** the observer, the wave fronts are observed to be **closer** to one another which makes the observed wavelength **smaller** and therefore the observed frequency **larger** and therefore we hear a **higher** pitch.



When the sound source is **away from** the observer, the wave fronts are observed to be **farther** from one another which makes the observed wavelength **larger** and therefore the observed frequency **smaller** and therefore we hear a **lower** pitch.



<sup>&</sup>lt;sup>1</sup> Feel free to review Flipping Physics video "What is Sound?" at https://www.flippingphysics.com/sound.html